

At the close of the Exposition of 1933, the Shroud was exhibited to the crowds in the open air. Dr. Barbet was able to examine it from a distance of less than a yard; it was then he observed the distinct color of the bloodstains, and how this color differentiated from the body imprints.

Photo: Collection Paul de Gail.

PROOF OF THE AUTHENTICITY OF THE SHROUD  
IN THE BLOODSTAINS: PART I

PIERRE BARBET

The following is an address delivered by Dr. Pierre Barbet on 3 May 1950 to the First International Congress of Sindonology, Rome section. In the *Acts* of that Congress, only a summary of his conclusions was included. The complete communication was unpublished until December, 1970, when it appeared in *Sindon*, with the Editor's comment that what Dr. Barbet said in 1950 was still valid in 1970.

We believe that, again in 1987, Barbet's observations still stand firm in the light of recent research, while his "difficulties" remain to bewilder us today.

Only three months before Dr. Barbet addressed the Congress, his book *La Passion de Jésus-Christ selon le chirurgien* was published in Paris. The English translation came out in 1963 as an Image Book edition of Doubleday & Co., under the title *A Doctor at Calvary*. Now a classic in sindonic literature, this book is probably—or should be—in your library.

The article will conclude in *Spectrum* #23, June 1987, with Barbet's detailed analyses of the individual wounds as proof that no artist could have imagined them, and his final conclusions.

This is the first occasion I have had to explain to you my research on the Wounds of the Passion and the conclusions I reached. These studies were my first contributions to the cause of the Holy Shroud, and they are still as valid today as they were when they were published. But that was a long time ago, since my experiments go back to 1932-1933, and after having published them in the *Bulletin de la Société de Saint-Luc*, of the French Catholic doctors, I reassembled them, in January 1935, in my brochure *Les Cinq Plaies du Christ* (The Five Wounds of Christ).

Most of you must know this book. There were four editions in French; one in Italian in 1940, thanks to my good friend Don Pietro Scotti, who took on the work at the moment when I myself was getting ready to rewrite it in the "*dolce favella*" (dulcet tongue). A Spanish edition is in press at Madrid. So I do not want to present to you today only those works which are already old, but I will have occasion in this communication to base myself solidly upon them in support of my demonstration.

While I purposely limited my publication to the five wounds, I did not leave off passionately studying all the ensemble of the tortures

of Jesus. In January 1940, I wrote a report of the physical sufferings of the Savior entitled *La Passion corporelle de Jésus*, which was widely read in countries of the French language. This was followed by my exegetical and philological study, *l'Ensevelissement de Jésus*.

Finally, I took up the whole question in its entirety, always considering it from a medical point of view. I added several long chapters: one on the crucifixion according to archeology and art history; another on the causes of Jesus' death; a third on the sufferings prior to the crucifixion; and a prefatory chapter about the Shroud and the formation of the imprints. This book, *La Passion de Jésus-Christ selon le chirurgien*, appeared at the beginning of this year, 1950.

From this collection of studies, I would like to select for you some evidence for authenticity which, as I progressed in this work, has appeared increasingly solid. I have summarized it in the title of this communication. The simple visual analysis of the blood images on the Cloth, independently of all the scientific examinations—which, I hope, will be performed—the simple study of the Enrie photographs, from this moment authorize us to affirm, and very scientifically, four facts:

1 – These images were made by blood. They are transfers\* of clots formed naturally on the body of Jesus, and these clots are of a glaring realism for the surgeon.

2 – These images could not have been made by a forger on a fabric like the Shroud; neither by painting nor dyeing nor even with blood.

3 – They could not even have been imagined by this forger without the very precise knowledge that we have today about blood coagulation.

4 – All the images, especially the most bizarre, the farthest from traditional iconography, are in perfect harmony with anatomic-physiological experiences and with archeological data. On the contrary, it is the artists' imagination that is nearly always far from reality.

In the demonstration of these four facts, every man of good will is bound to acknowledge the authenticity of our Relic. In no way do I disregard all the other proofs that have been furnished, quite the contrary; but these are not within my competence. On the other hand, I think it is the duty of the surgeon, who is better trained to read these blood traces, to interpret for all the faithful the sublime testimony that the Divine Crucified left for us on his Shroud, signing it Himself with His Blood.

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\*Barbet's term is *décalque*; best rendered as "transfer" in the sense given by Webster, definition 3: "To print or otherwise copy from one surface to another."

### **General Aspect of the Blood Images**

These images which we will study presently one by one, are, as you all know, positive images which come out white on the photographic film. I do not stress this point, but it is already a formal indication that they were produced by direct contact. Besides this, there are two other characteristics which differentiate the blood images from the body imprints.

One difference is their color. I do not concern myself at all with this because it is obvious to everyone. They are carmine, with variations in tonality from one image to another, and even over the area of the same image. This carmine color is assuredly not that of an old bloodstain, which is reddish brown, more or less dark. This particular carmine color in old clot [transfers] was certainly produced by special chemical reactions. This is the province of the chemist; important information on this subject has already been given us, particularly by Don Scotti in Italy and Jean Volkringer in France. I refer to their work only in order to conclude: This color can be perfectly consistent with the sanguineous origin of our images.

The third characteristic which differentiates the blood images from the body imprints is their shape and their modeled aspect. This enters into the frame of my professional experience and will be the basis of my communication.

The body imprints are presented in chiaroscuro of infinite delicacy, with photographic precision, with imperceptibly decreasing intensity and barely discernible contours. In contrast, most of the blood images have *distinct outlines* that look almost harsh on photos of reduced size. This distinctness of the borders is verified in photographs of natural size and even on the direct enlargement [7x] of the negative of the hand. One sees on this that the image was made by the isolated staining of each thread, and this staining stops short at the edge of the image.

Nevertheless, for some of them (I only see two; the transversal flow from the chest across the back, and the flow from the sole of the foot toward the heels), the clot images are surrounded by a sort of halo, very pale, barely tinted. This, we will see, is due to the exudation of blood *serum* made by the retraction of a clot that is *still fresh*, still moist and not yet retracted when it came into contact with the linen.

But nearly all the blood images stop short all around their circumference. Furthermore, they show variations of intensity in coloration, giving a striking resemblance to the unevenness of a relief. The sensation of modeling is every bit as startling as the bas-relief appearance of the body imprints.

From all this emerges a fact of primary importance, to which I will return constantly; I must state it at once because, for persons

who have not lived a long time in [the study of] blood, it is difficult to grasp. *That which strikes a surgeon right away as evidence, and which is then confirmed by methodical study, is that all these transfers have the familiar aspect of blood clots naturally formed on the skin.*

You see? For me it is so obvious that, without thinking twice, I already speak to you of transfers. In fact, it is in this way that these images were formed.

So observe carefully, if you peruse the iconography of the Passion; besides the fact that the wounds depicted by the artists usually do not correspond to reality, you will see that the blood-flows are always represented as being liquid. Never did artists have the idea to paint clots. However, on the body of this Crucified, what we see, above all, are *clots*. We should find only the transfers of *clots* on the Shroud.

All that I have just told you is as clear as possible in regard to all the important images. The innumerable traces of excoriations and the contusion wounds scattered over all the body were formed by elements which have the same characteristics; but the very restricted dimensions of these elements, their reciprocal overlapping, ending in actual zones of excoriations, makes a detailed analysis difficult.

### **Formation of the Images**

As we examine how the blood images were formed on the Shroud, we will see that: 1) a forger could not have produced them; 2) a forger could not have imagined them.

*A — A forger could not have produced these blood images artificially*

Today, even the adversaries of authenticity have owned that there is no trace of paint on the Shroud. In fact, the Enrie photographs have definitely eliminated this old accusation. So the adversaries have fallen back on the theory of the staining of the sheet by placing it directly over a statue smeared with a dye, such as the so-called "experiment" of the painter Clément. In reality, this was nothing more than an amusing "studio commission", devoid of scientific character. It is difficult enough to paint on an unprepared linen; but it is absolutely impossible to produce blood images like those of the Shroud with a dye. We know, in fact, from French and Italian experts, that the Shroud is woven with coarse, unbleached linen threads. Such a fabric is highly absorbent. If one drops any sort of coloring dye on this kind of fabric, one sees that the color diffuses immediately, following the direction of the threads as they imbibe it by capillarity. The resulting stain is not round [like the drop] but irregular, depending on the weave of the fabric. In our operating rooms, we have had a long experience with compresses. One drop of tincture of iodine on a compress immediately makes a little brown star from the central spot. If the drop is large, it immediately rings itself with a fine lace of crenulations, advancing along the direction of the threads.

Blood produces the same phenomenon of *irregular* and *guided diffusion*. The drop widens on the linen, always following the threads. One drop produces a little red cross; a larger spot spreads rapidly but this too makes a dentelated contour due to the more rapid diffusion along the twilled threads. Never do these stains present the clean outlines which we have observed on the Shroud.

However, the stains alongside the heels, which were made by liquid blood, coagulated directly on the Shroud, leaving irregular and dentelated borders.

This, mark well! clears away in advance every validity to the objection which will not fail to arise as a strategic maneuver the day that scientific tests will, perhaps, demonstrate to the most incredulous that these images really originate from blood. The individual analysis which we have made above will succeed in eliminating completely every idea of artificial fabrication of the Shroud.

### B — *A forger could not have imagined these blood images*

The only plausible explanation is the following: A part of the blood that issued from the wounds, by reason of its viscosity, adhered to the skin and coagulated there according to a physiological mechanism well known today. These clots, coming into contact with the Shroud, were transferred onto it. They have left true portraits of a startling realism. Let us look a bit at the details of the phenomenon.

#### 1 — Coagulation

Put aside at once a false idea too often expressed as a "flow of clots". No! A clot formed on the skin sticks and dries there.

Another thing; a clot never forms in the body, more exactly, in the veins, where blood is always liquid. The "thrombus" of phlebitis is anatomically something else entirely; and it is only produced in diseased veins.

Blood remains liquid in a corpse. It lodges in the veins; the arteries empty into the capillaries and into the veins by the last contractions of the ventricles and by their own elasticity. In the veins it remains liquid a very long time, practically until putrefaction sets in. It even remains living for some time, insomuch that in Russia blood transfusions are performed from corpses. If we do not practice this method in France, it is probably from sentimental reasons.

If blood flowing from a wound is collected in a recipient, we see that it rapidly coagulates, that is, it becomes like a sort of red jelly, which is called a clot. This clot is formed by the transformation of a substance dissolved in the blood, called *fibrinogen*, into a solid substance, the *fibrin*. Fibrin encloses in its meshes the blood cells, whence its red color. Coagulation takes place in a very short time, a few minutes at the most. Secondly, the clot retracts and exudes the liquid part, the serum. Then little by little it dries.

Therefore, if blood of a living or a dead person issues from a cutaneous wound, much of it runs liquid on the skin and, depending

on its weight, can fall to the ground. A part, *because of viscosity*, adheres to the skin and rapidly coagulates. As the flow continues, new layers of liquid blood cover the preceding layers and each new layer coagulates over the others. If, in its downward flow, the blood encounters an obstacle, it accumulates above it; consequently the clot becomes thicker at this level.

The retraction of the blood with the expulsion of serum, then the dessication, produces a clot on the skin, as it did in the recipient. Obviously, over a large surface and in a thin layer, this drying is more rapid. All these elementary explanations, of course, are only addressed to those who are not doctors.

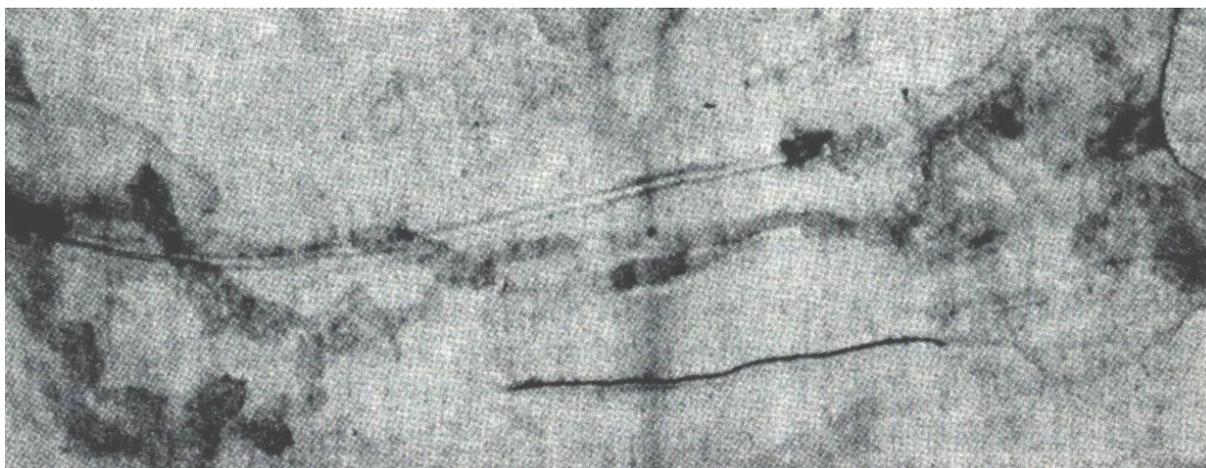
## 2 — Formation of the transfers

Thus we see that the Shroud could have been stained by liquid blood, by clots still fresh and moist, or by dried clots. Around a still-fresh clot, there could also be a stain of serum which exuded from it. Which case applies to our images?

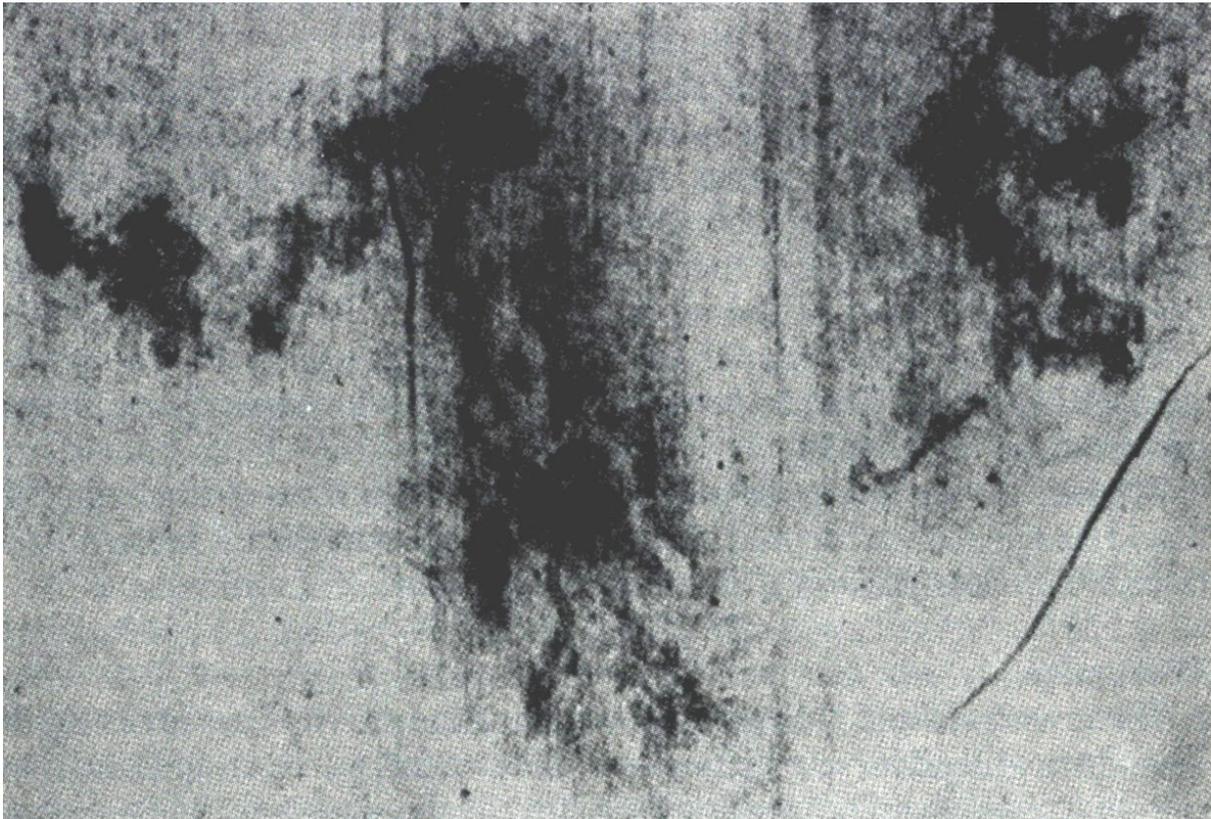
a) Liquid blood is an exception, almost unique. I see only those flows from the holes in the feet, in the direction of the heels, which came during the transport [to the grave] and in the tomb. Most of the blood coagulated on the soles and these clots were transferred in their freshness onto the Shroud. However, a part of it ran beyond the feet, into a little plait in the cloth, traversing the folds from one side to the other, forming symmetrical images.

b) Some clots must have been still fresh enough to have remained moist: perhaps the large cardiac flow on the frontal image, because of its thickness; certainly the clots from the large flow across the back that formed in the furrows of a cloth twisted into a band and passed under the back to help support the body while carrying it to the grave. We will study this farther on. These clots were quite fresh when the body was placed in the Shroud. They transferred very easily, with a great *abundance of serum* around the transfers.

c) Most of the clots were more or less dry at the time of the burial. How were they transferred?



Clots in the large flow across the back; an example of fresh clots with an abundance of serum.



The stain near the feet, at the level of the heels; an example of liquid blood producing irregular borders and direct coagulation on the Shroud.

It must be understood that the corpse was enclosed inside the Shroud, and one must suppose that the corpse continued to exude an aqueous vapor for a long time. It is too often forgotten that the cells of a corpse continue to live, each one on its own, those of the skin like the others, and they die individually at different times; total death does not occur until the onset of putrefaction. Now Faith tells us that Jesus did not undergo corruption; and all the Shroud confirms this. On the other hand, all the wounds, all the excoriations that covered the body, continued to ooze a lymph, liquid and more or less infected, as on the living body.

Consequently we see that the body was bathed in an aqueous atmosphere which re-moistened the clots on the skin and in the wounds. This, then, takes us back to the case of fresh clots, but with one great difference: *the absence of serum*.

Now by this I do not mean to say that the fibrin liquified, which is totally different. Vignon, all pervaded with his aleoticoammoniacal theory of the body images, thought that the ammonia had dissolved the fibrin and reliquified the clots. He experimented by placing clots in an atmosphere saturated with a solution of ammonia. In truth, this was no longer normal living blood, but a colored liquid incapable of re-coagulating. What is more, had flows like this been made when the body was in a horizontal position in the tomb, they would have been disastrous for our blood images. In fact, there are no colored flows on the Shroud; there are only clot transfers.

Of course, fibrin can be dissolved in an ammoniacal solution, but there is no ammonia on the Shroud.

It seems possible to me that in a humid atmosphere the dried clots could be sufficiently moistened without the liquefaction of fibrin, to form a sort of paste, more or less soft. Thus transformed, they were perfectly apt to impregnate the linen put in contact with them and to make there these transfers with definite outlines, reproducing the form of the clots.

The color of these varied in intensity, depending on the thickness of the clot. That is why they give this impression of being modeled, as in a relief.

Therefore, in my opinion, this is the way that almost all the blood images were formed. *Except for the stains beside the heels, all are transfers of clots performed naturally on the skin.*

### **Difficulty**

Have we finished this general study of the clots? Alas! far from it! There are still immense difficulties to be resolved. Perhaps one day the spectroscope, the photographs in all the spectral range, infrared in particular; radiography, and all that we can imagine, may tell us that a corpse covered with wounds lay for some hours in the Shroud. But nothing will ever explain to us *how he got out of it*, leaving there, intact and beautiful, the imprint of his body and the traces of his bleeding. No one could remove a corpse from its wrapping without detaching a part of these images from the cloth, and without crumbling some of the blood which was dried there.

It is quite certain that this body, resurrected in glory, could escape from his Shroud quite as easily as it entered into the Upper Room, "*januis clausis*", the doors being closed. This ultimate obstacle enables us to touch with the finger, humanly speaking, an almost material impossibility. Here science, no longer in its domain, can only keep silence. But the scholar can at least glimpse a palpable proof of the Resurrection.

When the first edition of my *Five Wounds* was printed, I took it to my friend Professor Hovelacque. An ardent anatomist, he taught anatomy at the Faculty of Paris, but he was far from being a believer. With growing enthusiasm, he approved of my experiments and my conclusions. When he had finished reading, he sat a moment in silence. Then, suddenly bursting out with that splendid frankness which bonded our friendship, he exclaimed: "But then, mon vieux? Jesus Christ *did* rise from the dead!" Rarely have I felt such a profound and such a sweet emotion as at that reaction of an unbeliever faced with a purely scientific work from which he himself drew the incalculable consequences.